Studies on Enzyme Action—Lipase.

By Dr. Maurice Nicloux.

(Communicated by Professor W. D. Halliburton, F.R.S. Received January 16,—Read February 1, 1906.)

In a recent number of the 'Proceedings of the Royal Society'* Dr. Henry G. Armstrong published a paper with the above title. I beg leave to draw attention to the work† I have performed on the saponification of fats by castor-oil seeds, and, without entering into detail, to state my general conclusions. These are as follows:—

(*a*) By mechanical means it is possible to separate the cytoplasm of the castor-oil seeds from all the other cellular elements, particularly from the aleurone grains.

(*b*) Pure cytoplasm prepared as above alone has the property of hydrolising fats; its power is considerable.

(*c*) It acts on the fats in the same way as an enzyme, and follows all the laws of enzyme action.

(*d*) Nevertheless the active substance of which cytoplasm is but probably the support is not an enzyme; this substance, which I proposed to call "lipaseïdine," is destroyed by water as soon as it is no longer protected by fats.

(*e*) It is possible to repeat *in vitro* with isolated cytoplasm hydrolysis of the fatty matter such as occurs in the seed at the time of germination.

* 'Roy. Soc. Proc.,' B, vol. 76, p. 606.

† These were published in a series of notes in the 'Comptes Rendus de l'Academie des Sciences':—"Sur un procédé d'isolement des substances cytoplasmiques," 'Compt. Rend.,' 1904, vol. 138, p. 1112; "Sur le pouvoir saponifiant de la graine de ricin," 'Compt. Rend.,' 1904, vol. 138, p. 1175; "Étude de l'action lipolytique du cytoplasma de la graine de ricin," 'Compt. Rend.,' 1904, vol. 138, p. 1288; "La propriété lipolytique du cytoplasma de la graine de ricin n'est pas due à un ferment soluble," 'Compt. Rend.,' 1904, vol. 138, p. 1352; "Mécanisme d'action du cytoplasma (lipaseïdine) dans la graine en voie de germination; realisation synthétique de ce mécanisme," 'Compt. Rend.,' 1904, vol. 139, p. 143; and later in a general memoir, "La saponification des corps gras," 'Revue Générale des Sciences,' 16ème Année, No. 23, 15 Decembre, 1905, pp. 1029—1037.